

End of Waste Code

Fibre cement board (ENEW07359417)

Waste Reduction and Recycling Act 2011



Version history

Version	Date	Description of changes
1.00	19 November 2021	Commencement of EOW code on gazettal
1.01	23 June 2023	Minor update to reflect the definition of waste moving into the <i>Waste Reduction and Recycling Act 2011</i> . This does not impact the interests of the producer or user of the resource.

Prepared by: Waste Assessment, Department of Environment and Science

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1. Explanatory Statement

This End of Waste (EOW) code for **fibre cement board** has been issued by the **chief executive** in accordance with section 159 of the *Waste Reduction and Recycling Act 2011* (WRR Act).

This EOW code states when waste **fibre cement board** becomes a **resource** and any relevant requirements and/or conditions for its use. If the **resource** is not being used in accordance with the relevant requirements and/or conditions of this EOW code, or another type of permit that allows for its use, it is considered a waste under section 8AA of the WRR Act and must be disposed of appropriately at a facility that is lawfully able to receive the waste.

2. Guidance

2.1 Resource use versus activity

Under section 155 of the WRR Act, a waste stops being a waste and becomes a **resource** when it meets the requirements and conditions of an EOW code. Under section 159 of the WRR Act, an EOW code specifies the circumstances when a waste becomes a resource; how it must be used to be considered a resource; when it is no longer considered a resource but a waste instead; and conditions that must be complied with by resources users and registered resource producers.

An Environmental Authority (EA) under the *Environmental Protection Act 1994* (EP Act) is required where an activity being undertaken triggers the threshold for any environmentally relevant activity (ERA). This means that treating or processing the waste to meet the resource quality criteria under the EOW code may require an EA under the EP Act if the activity meets the threshold for an ERA.

2.2 Resource versus waste

A waste that is a **resource** under an EOW code is considered a **resource** only for the use(s) approved in an EOW code. To be considered a resource under the EOW code, the material used as the resource must meet the requirements of the EOW code and be used in accordance with the conditions of the EOW code, otherwise it is considered a waste and must be managed in accordance with waste management requirements under the EP Act and the WRR Act and their subordinate legislation.

A **resource** under an EOW code, is deemed to be a waste again, if it is not used in accordance with the EOW code; if it is disposed of at a waste disposal site; or if it is deposited at a place in a way that would, apart from its use approved under an EOW code, constitute a contravention of the general littering provision (section 103) or the illegal dumping of waste provision (section 104) under the WRR Act.

2.3 Failure to comply

It is an offence under section 158(1) of the WRR Act for a **registered resource producer** to produce the **resource**, or use, sell or give away the **resource** unless they comply with the requirements under an EOW code. Further, it is an offence under section 158(2) of the WRR Act for a **person** to use the resource in a way, or for a purpose, that does not comply with an EOW code for the resource. These offences carry a maximum penalty of 1,665 penalty units for an individual and 8,325 penalty units for a corporation.¹

Please refer to Appendix A of this EOW code for general obligations for all persons operating under this EOW code, which includes the **resource users**.

¹ The value of a penalty unit is stated in the *Penalties and Sentences Regulation 2015* (Qld), unless superseded by a revised version or newer document).

2.4 Lawfulness of the activity

The issuing of this EOW code for the use of a **resource** does not warrant or imply the lawfulness of the activity under all legislation, or that approvals necessary under other legislation have or will be approved. It is the responsibility of the **registered resource producer** and **resource user** to identify and obtain all other approvals necessary for the relevant activities.

3. Period of this EOW code

This EOW code takes effect from the day of gazettal of this EOW code and remains in force until it is amended, cancelled or suspended by the **chief executive**².

4. Waste to which this EOW code applies

This EOW code is limited to the waste **fibre cement board** generated during the manufacture of fibre cement board. The waste **fibre cement board** becomes a **resource** only when the requirements and conditions under this EOW code are met.

5. Person to whom this EOW code applies

5.1 Registered resource producers of the resource

5.1.1 A **registered resource producer** for this EOW code must comply with the stated registered resource producer requirements in Section 6 – Registered Resource Producer Requirements.

5.2 Resource users

5.2.1 The **resource user** must only use the **resource** in a way, and for a purpose allowed under this EOW code.

5.2.2 The **resource user** must comply with the stated conditions of use in Section 7 – Conditions of Use.

² If an EOW code is to be amended, cancelled or suspended, the chief executive will provide an opportunity to make written submissions by providing a proposed action notice to the registered resource producers; and publishing the proposed action notice on department's [website](#).

6. Registered Resource Producer Requirements

Registration under this EOW code																											
(6.1)	Prior to operating under this EOW code, the producer of the resource must register with the chief executive by giving a notice in the approved form ³ to become a registered resource producer for this EOW code.																										
Approved resource																											
(6.2)	The approved resource is waste fibre cement board that complies with <i>Requirement (6.3)</i> of this EOW code.																										
(6.3)	<p>The registered resource producer must not use, sell or give away the resource under this EOW code unless the resource complies with all the following criteria:</p> <ul style="list-style-type: none"> a) the resource is waste fibre cement board generated during the manufacture of fibre cement board; and b) the resource quality characteristics do not exceed the quality criteria stated in <i>Table 1: Resource quality criteria</i>. <p>Table 1: Resource quality criteria</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;">Quality characteristics</th> <th style="width: 60%;">Maximum contaminant concentration (mg/kg dry weight, unless otherwise specified)</th> </tr> </thead> <tbody> <tr><td>Arsenic</td><td style="text-align: center;">20</td></tr> <tr><td>Cadmium</td><td style="text-align: center;">1</td></tr> <tr><td>Chromium (total)</td><td style="text-align: center;">100</td></tr> <tr><td>Copper</td><td style="text-align: center;">125</td></tr> <tr><td>Lead</td><td style="text-align: center;">25</td></tr> <tr><td>Mercury</td><td style="text-align: center;">1</td></tr> <tr><td>Molybdenum</td><td style="text-align: center;">15</td></tr> <tr><td>Nickel</td><td style="text-align: center;">60</td></tr> <tr><td>Selenium</td><td style="text-align: center;">10</td></tr> <tr><td>Zinc</td><td style="text-align: center;">200</td></tr> <tr><td>Electrical conductivity</td><td style="text-align: center;">2500 µS/cm</td></tr> <tr><td>pH range</td><td style="text-align: center;">7 - 12</td></tr> </tbody> </table>	Quality characteristics	Maximum contaminant concentration (mg/kg dry weight, unless otherwise specified)	Arsenic	20	Cadmium	1	Chromium (total)	100	Copper	125	Lead	25	Mercury	1	Molybdenum	15	Nickel	60	Selenium	10	Zinc	200	Electrical conductivity	2500 µS/cm	pH range	7 - 12
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³ The approved form, *Registered Resource Producer for an EOW code*, is available on the chief executive's [website](#).

Resource monitoring	
(6.4)	The registered resource producer must sample, measure and record the composition of the resource for respirable crystalline silica ⁴ content in the process dust of the resource on a quarterly basis as a minimum.
(6.5)	The registered resource producer must sample, measure and record the composition of the resource for the quality characteristics in <i>Table 1: Resource quality criteria</i> , on a quarterly basis as a minimum.
(6.6)	All analysis required under this EOW code must be carried out by a laboratory that has NATA certification, or an equivalent certification, for such analyses ⁵ .
Information to be provided	
(6.7)	The registered resource producer must provide the following to the resource user upon establishment of an arrangement to sell or give away the resource , and annually thereafter: <ul style="list-style-type: none"> a) a copy of the EOW code for <i>Fibre Cement Board (ENEW07359417)</i>⁶; b) the registered resource producer's business name, ABN and address; c) confirmation in writing that the resource being supplied is compliant with <i>Requirement (6.3)</i> of this EOW code; d) the most recent certificate of analysis for the respirable crystalline silica content in the process dust of the resource; e) the most recent certificate of analysis for the quality characteristics listed in <i>Table 1: Resource quality criteria</i>; and f) safety data sheet for the resource.
Records	
(6.8)	The registered resource producer must keep the following records for the resource supplied to a resource user : <ul style="list-style-type: none"> a) origin of the resource (e.g., address, lot on plan and/or GPS coordinates); b) quantity (in tonnes) of the resource supplied; c) the certificates of analysis for the respirable crystalline silica content in the process dust of the resource; d) the certificates of analysis for the quality characteristics listed in <i>Table 1: Resource quality criteria</i>; e) date of dispatch of the resource; and f) business name, ABN and address of the resource user.

⁴ US NIOSH (National Institute for Occupational Safety and Health) 7500 – Silica, Crystalline, by XRD (filter reposition), Issue 4, 15 Mar 2003 (unless superseded by a revised version or newer document): the part for bulk sample measurement. Refer to AS 4482 for sampling methods.

⁵ For the analysis of respirable crystalline silica in the bulk sample, the analysis from a research laboratory approved by the chief executive is acceptable.

⁶ This can be a physical copy, an electronic copy or a link to the chief executive's [website](#) where this EOW code is available.

(6.9)	All records required to be kept by the registered resource producer under this EOW code must be: <ul style="list-style-type: none"> a) kept by the registered resource producer for a period of not less than five (5) years; and b) provided to the chief executive upon request, in the format requested and in the time period specified.
Notification of emergencies incidents and exceptions	
(6.10)	Any breach of a requirement of this EOW code must be reported to the chief executive within 24 hours of becoming aware of the breach ⁷ .
(6.11)	Records of any breach of a requirement of this EOW code, including full details of the breach and any subsequent actions taken, must be kept and provided to the chief executive upon request, in the format requested and time period specified.

7. Conditions of use

Notification under this EOW code	
(7.1)	Prior to operating under this EOW code, a person who intends to use the approved resource must notify the chief executive by giving a notice in the approved form ⁸ at least 10 days prior to the commencement of using the resource .
Approved use	
(7.2)	The approved resource is waste fibre cement board that complies with <i>Requirement (6.3)</i> of this EOW code and is used in the bound applications stated in <i>Condition (7.3)</i> .
Resource use in bound applications	
(7.3)	Use of the resource in bound applications is limited to manufacturing of the following ⁹ : <ul style="list-style-type: none"> a) asphalt; b) blended manufactured aggregate product; c) cement products; d) cementitious mixes; e) clay bricks and pavers; and f) concrete products.

⁷ Reporting can be via the **chief executive's** Pollution Hotline (1300 130 372 – option 2) or via online reporting through the **chief executive's website** (www.des.qld.gov.au).

⁸ The approved form, *Notification of use of a resource* is available on the Queensland Government website at www.qld.gov.au, using the publication number (ESR/2018/4552) as a search term.

⁹ It is an obligation of the resource user to handle and utilise the resource in accordance with the requirement of Work Health and Safety Regulation (as the most updated version) and Safe Work Australia: Workplace Exposure Standards for Airborne contaminants (as the most updated version), given the information provided by the resource producer under *Requirement 6.7(d) – (f)*.

Records	
(7.4)	The resource user must record the following information for each load of the resource received by the resource user under this EOW code: <ul style="list-style-type: none"> a) business name, ABN and address of the registered resource producer who supplied the resource; b) date the resource user received the resource; c) quantity (in tonnes) of the resource received by the resource user; and d) site of use of resource (e.g., street address, lot on plan and/or GPS coordinates).
(7.5)	All records required to be kept by the resource user under the conditions of this EOW code must be: <ul style="list-style-type: none"> a) kept by the resource user for a period of not less than five (5) years; and b) provided to the chief executive upon request, in the format requested and time period specified.
Notification of emergencies incidents and exceptions	
(7.6)	Any breach of a condition of this EOW code must be reported to the chief executive within 24 hours of becoming aware of the breach ¹⁰ .
(7.7)	Records of any breach of a condition of this EOW code, including full details of the breach and any subsequent actions taken, must be kept and provided to the chief executive upon request, in the format requested and in the time period specified.

8. Definitions

Words and phrases used throughout this EOW code **in bold** are defined below. Where a definition for a term used in this EOW code is sought and the term is not defined within this EOW code the definitions provided in the relevant legislation shall be used.

'ABN' means Australian Business Number which is a unique 11- digit number issued by the Australian Business Register and identifies a business in Australia.

'blended manufactured aggregate product' means waste **fibre cement board** being used as one of the feedstocks mixed to manufacture blended aggregate products as construction material, which are compressed and compacted to a base layer, providing stability and structural integrity for building, construction, landscaping, and/or civil engineering purposes. This form of blended manufactured aggregate product must be **graded** for its intended purpose.

¹⁰ Reporting can be via the **chief executive's** Pollution Hotline (1300 130 372 – option 2) or via online reporting through the **chief executive's** [website](http://www.des.qld.gov.au) (www.des.qld.gov.au).

'bound applications' means where the **resource** is encapsulated or chemically transformed and incorporated into a final product that complies with relevant Australian Standards¹¹ for that product. For example, in brick making, the **resource** can be one of the feedstocks to be mixed in ground clay with water, formed into the desired shape, and drying and firing to become hardened material; in construction, bound materials are soils or aggregates that have a binder such as cement, lime-based binders, gypsum or fly ash added, which then hardens by a chemical/hydraulic reaction with water.

'bulk sample'¹² means a small portion from the **resource** collected for laboratory analysis to determine **respirable crystalline silica** content in the **process dust**.

'business' means a body of persons, whether incorporated or unincorporated.

'cementitious mixes' means the mixing materials as a pre-cursor to a concrete product, which include cement and supplementary cementitious materials, such as fly ash, ground granulated blast-furnace slag, silica fume, rice husk ash and natural pozzolans, which are added to strengthen concrete.

'chief executive' means the Department of Environment and Science or its successor.

'crystalline silica' is a basic component of soil, sand, granite, and many other minerals. Quartz is the most common form of crystalline silica. Cristobalite and tridymite are two other forms of crystalline silica. All three forms may become respirable size particles when workers chip, cut, drill, or grind objects that contain crystalline silica. (US Department of Labor, Occupational Safety and Health Administration (OSHA) 3176, 2002).

'emergency(ies)' means a situation where either human health or safety is threatened, or serious or material environmental harm has been or is likely to be caused; and urgent action is necessary to protect the health or safety of persons, or prevent or minimise the harm, or rehabilitate or restore the environment because of the harm.

'environmental harm' means environmental harm as defined in Chapter 1 of the *Environmental Protection Act 1994*.

'fibre cement board' is a composite material made of cement, sand and cellulose fibres and is used as a building material to cover the interior and exterior of buildings in commercial and domestic applications. Waste fibre cement board includes whole pieces of waste fibre cement board, broken-down waste fibre cement board, and the **process dust**. It excludes fibre cement board sludge, which is the mixture of cement, sand, water and cellulose fibre before the steam curing process.

'graded' means the particle size distribution (aggregate grading) which measures the proportions by mass of the various particle sizes present. In the case of the **resource**, crushed fibre cement board consisting of a mixture of fine and coarse aggregates, the combination of the fractions of different sizes would be graded meeting the purposes of construction materials with AS1141 series.

'load' means the volume of **resource** put in or on something for conveyance or transportation, carried at one time and to one **site of use**. For example, a truck and trailer carrying the resource is considered as one load as well as multiple bins travelling by rail. Where the resource is transported via conveyor systems, information should be recorded on a daily basis until the transfer ceases.

'measures' have the broadest interpretation and includes plant, equipment, physical objects, monitoring, procedures, actions, directions and competency.

'NATA' means the National Association of Testing Authorities.

'person' means an individual or a corporation.

¹¹ In the absence of Australian Standards for the product, it is required for the final product to meet any other appropriate industry standards or product specifications (e.g., Registered Professional Engineer of Queensland certified technical specifications).

¹² US OSHA (Occupational Safety and Health Administration) Method ID-142 version 4.0 - Crystalline Silica Quartz and Cristobalite, unless superseded by a revised version or newer document.

‘process dust’ means the dust which is generated from final processing, including sanding, trimming and coating in the finishing line at fibre cement production.

‘records’ include breach notifications, written procedures, analysis results, monitoring reports and monitoring programs required under a condition or requirement of this EOW code.

‘registered resource producer(s)’ means a person who produces the **resource** and has registered with the **chief executive** (in accordance with *Requirement (6.1)* to use, sell or give away the **resource** to be used under this EOW code). Where the registered resource producer also uses the resource, notification of being a **resource user** must also be made in the approved form in accordance with *Condition (7.1)* of this EOW code.

‘resource’ means waste **fibre cement board** that meets the criteria and quality characteristics in *Requirement (6.3)* of this EOW code.

‘resource user(s)’ means a **person** who has notified the **chief executive** (in accordance with *Condition (7.1)*) to receive the **resource** from a **registered resource producer** and uses the **resource** for a use approved under this EOW code and does so in such a manner which does not cause any **environmental harm**.

‘respirable crystalline silica’ means the portion of airborne crystalline silica that is capable of entering the gas-exchange regions of the lungs if inhaled; by convention, a particle-size-selective fraction of the total airborne dust; includes particles with aerodynamic diameters less than approximately 10 µm and has a 50% deposition efficiency for particles with an aerodynamic diameter of approximately 4 µm (Page xvi, Glossary, NIOSH Hazard Review: Health Effects of Occupational Exposure to Respirable Crystalline Silica, DHHS (NIOSH) Publication Number 2002-129, US Department of Health and Human Services, April 2002).

‘safety data sheet’ means a document containing data regarding the properties of the **resource** which provides information on handling or working with that substance in a safe manner; and includes information such as physical data toxicity, environmental characteristics, health effects, first aid, reactivity; and storage, disposal, protective equipment and spill handling procedures. The safety data sheet must be compliant with Safe Work Australia’s *Model Code of Practice: Preparation of safety data sheets for hazardous chemicals 2018* (unless superseded by a revised version or newer document).

‘site of use’ means the relevant location(s) where the **resource user** receives and/or uses the **resource** in accordance with this EOW code.

‘waters’ includes river, stream, lake, lagoon, pond, swamp, wetland, surface water, natural or artificial watercourse, bed and bank of any watercourse, dams, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, roadside gutter, stormwater run-off, and groundwater and any part thereof.

- END -

Appendix A —General obligation for all persons

This appendix is not intended to provide a comprehensive assessment of all obligations under Queensland law. It provides some general information and persons are encouraged to familiarise themselves with all requirements related to their specific operation.

Responsibilities under the *Environmental Protection Act 1994*

All persons within the State of Queensland must also meet their obligations under the *Environmental Protection Act 1994*, and the regulations made under that Act.

General environmental duty

Section 319 of the *Environmental Protection Act 1994* states that we all have a general environmental duty. This means that we are all responsible for the actions we take that affect the environment. We must not carry out any activity that causes or is likely to cause environmental harm unless we take all reasonable and practicable measures to prevent or minimise the harm. To decide what meets your general environmental duty, you need to consider:

- the nature of the harm or potential harm
- the sensitivity of the receiving environment
- the current state of technical knowledge for the activity
- the likelihood of successful application of the different measures to prevent or minimise environmental harm that might be taken
- the financial implications of the different measures as they would relate to the type of activity.

It is not an offence not to comply with the general environmental duty. However, maintaining your general environmental duty is a defence against the following acts:

- (a) an act that causes serious or material environmental harm or an environmental nuisance
- (b) an act that contravenes a noise standard
- (c) a deposit of a contaminant, or release of stormwater run-off, mentioned in section 440ZG.

More information is available on the Department of Environment and Science website www.des.qld.gov.au.

Some relevant offences under the *Environmental Protection Act 1994*

Causing serious or material environmental harm (sections 437–39)

Material environmental harm is when the harm is not trivial or negligible in nature. Serious environmental harm is harm that is irreversible, of a high impact or widespread, or that is caused to an area of high conservation value or special significance. Damages, or costs required to rehabilitate the environment, of over \$5000 constitutes material environmental harm and damages, or costs required to rehabilitate the environment, of over \$50,000 constitutes serious environmental harm.

Serious or material environmental harm excludes environmental nuisance.

Causing environmental nuisance (section 440)

Environmental nuisance is unreasonable interference with an environmental value caused by aerosols, fumes, light, noise, odour, particles or smoke. It may also include an unhealthy, offensive or unsightly condition because of contamination.

Depositing a prescribed water contaminant in waters (section 440ZG)

Prescribed water contaminants include a wide variety of contaminants listed in Schedule 10 of the Environmental Protection Regulation 2019.

It is your responsibility to ensure that prescribed water contaminants are not left in a place where they may or do enter a waterway, the ocean or a stormwater drain. This includes making sure that stormwater falling on or running across your site does not leave the site contaminated. Where stormwater contamination occurs you must ensure that it is treated to remove contaminants. You should also consider where and how you store material used in your processes onsite to reduce the chance of water contamination.

Placing a contaminant where environmental harm or nuisance may be caused (section 443)

A person must not cause or allow a contaminant to be placed in a position where it could reasonably be expected to cause serious or material environmental harm or environmental nuisance.

Some relevant offences under the *Waste Reduction and Recycling Act 2011*

Littering (section 103)

Litter is any domestic or commercial waste and any material a person might reasonably believe is refuse, debris or rubbish. Litter can be almost any material that is disposed of incorrectly. Litter includes cigarette butts and drink bottles dropped on the ground, fast food wrappers thrown out of the car window, poorly secured material from a trailer. However, litter does not include any gas, dust, smoke or material emitted or produced during, or because of, the normal operations of a building, manufacturing, mining or primary industry.

Illegal dumping of waste (section 104)

Illegal dumping is the dumping of large volumes of litter (200 litres or more) at a place.

Failure to comply with EOW code (section 158)

A registered resource producer for an EOW code must not use, sell or give away the resource unless the registered resource producer complies with the requirements of the EOW code relating to the resource.

A person, other than a registered resource producer, must not use a resource in a way, or for a purpose, that does not comply with an EOW code for the resource.

Approved:

1 November 2021

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